

## Montana Earthquake Hazard Reduction Program

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# October is... EARTHQUAKE PREPAREDNESS MONTH!!

**M**ontana...pristine mountains, alluring valleys...geologically breathtaking! But...the forces that create this beauty are the same forces that can rock your world. Earthquakes are caused by movement within the earth's crust. They are mystifying, common, and as unpredictable as they are powerful - not even seismologists fully understand the forces that set them in motion. Although we can't prevent or predict them, we can prepare for them. Are you ready?

### Earthquake Facts:

# Earthquakes Rock

..But before they do

## Reduce Your Risk!

Do your part...

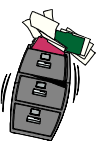
- Montana is the fourth most seismically active state in the U.S. trailing areas we typically associate with earthquakes: Alaska, California and Hawaii.
- Records show Montana has experienced significant earthquakes (magnitude 6.0 or larger) in 1897, 1909, 1925, 1935, 1947, 1959, 1964 & 1975. They claimed 32 lives.
- Montana Bureau of Mines & Geology in Butte tracks seismic activity throughout Montana. Check it out at: [http://mbmgquake.mtech.edu/reviewed\\_events.html](http://mbmgquake.mtech.edu/reviewed_events.html)
- The western half of Montana is considered the highest risk for damaging quakes. Approximately  $\frac{3}{4}$  of Montana's population reside in this area.
- The largest loss of life from any one earthquake occurred in Tangshan, China, 1976. Over 255,000 people were killed by this devastating 7.8 quake & resulting tsunami.
- In 1909, an earthquake with a magnitude estimated between 5.5 and 6.5, rocked Northeastern Montana near the Saskatchewan-North Dakota border - confirming that activity can occur anytime... anywhere.
- In 1999, a 5.3 quake shook the Red Rock Valley near Lima. Although no damage occurred, it was felt over 200 miles away!
- Regarding earthquakes in the 20th Century, Montana has one of the highest per-capita death rates in the United States.
- By far, earthquakes are the greatest single-event natural hazard Montana faces.

Identifying potential problems and mini-mizing their risk can **make it safe!**

Here's how:

- 19,000 chimneys collapsed in the February 2001 Seattle earthquake, causing damage & injuries. Reinforce or remove your brick chimney to prevent its failure.
  - Secure your computers.
  - If stacking items, stack them no higher than three feet.
  - Bungee-cord all bookshelves.
- Anchor top-heavy furniture & appliances.
- Protect aquariums and other pet homes from sliding or overturning.
- Close-hook heavy and/or breakable objects suspended from the ceiling.
- Remove breakable and/or heavy objects from high places.
- Install latches on cupboards.

- Safely store flammables & chemicals in a secure area.
- Secure furniture & other heavy items that have wheels or may slide.
- Windows may break or implode in an earthquake. Film, tape, and even curtains can help protect you.
- Secure heavy pictures & mirrors-do not put heavy objects over your bed.
- Keep a pair of shoes next to your bed. You may need them if broken glass or other debris is on your floor following an earthquake.
- Learn to shut off electricity, gas & water main valves, just in case.
- **Do you have earthquake insurance?** Look at your policy - you may need to talk with your agent.







# Get Ready






Prepare to Survive!

Do your part...

Earthquakes are the most unpredictable of all disasters. When the earth shakes, you may be left without everyday conveniences: electricity, water, food, and medical attention. Be prepared! Keep these items available at all times so you are **prepared to survive!**

## Preparedness Checklist...

- Flashlight 
- Radio
- Extra batteries
- First aid kit
- Water 
- Infant supplies
- Prescription medication
- Food (non-perishable & easy to prepare) 
- Disposable dishes & silverware
- Bedding 
- Toiletries

- Towels 
- Cash 
- Water purifiers
- Cookware
- Matches or Lighter
- Can opener 
- Knife
- Ax, shovel, hammer & bucket 
- Clothing
- Shoes
- Blankets
- Personal records 

- Pet supplies 
- Games & books
- Garbage bags
- Pens & paper
- Heavy-duty tape
- Soap & disinfectant
- Vitamins 

\*Include what **you** need to survive comfortably for at least 72 hours!!

# Earthquakes Rock

...And when they do

## Drop

Remain Calm.  
DROP down to the ground.



## Cover &

Take **COVER** under a sturdy desk, table, or other piece of furniture. If not possible, take **COVER** against an interior wall. It is important to **COVER** your head and neck with your arms. Avoid danger spots: windows, hanging objects, mirrors, tall objects, exterior walls and heavy items on wheels.

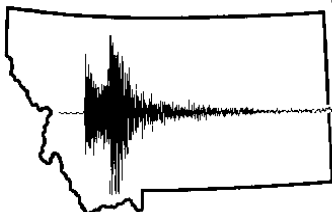
## Hold

If you take cover under a sturdy piece of furniture, **HOLD** onto it and be prepared to move with it. **HOLD** the position until the ground stops shaking and it is safe to evacuate the building. **Expect Aftershocks!!!**

## Drop Cover & Hold

Know the Drill!

If you are outdoors, remain calm. Try to avoid buildings, unstable structures, overhead power lines, and other obvious dangers. Although scary, this is a safe place to be!



For more information, contact your local DES County Coordinator/Emergency Manager or Monique T. Lay, Earthquake Program Manager at (406) 841-3963